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Assessing the Level of Awareness and Knowledge of COVID 19 Pandemic among Syrians

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Abstract

This study was conducted through a valid and reliable questionnaire including socio-demographic and COVID 19 knowledge data. This study investigates the level of awareness about COVID 19. This research aimed to assess the current level of awareness towards COVID 19 among Syrians through a well-designed questionnaire. Data were collected online from a sample of 400 respondents.

The main objectives of this study were to study the awareness of Syrian people about the knowledge of information about COVID 19 and protection methods. The major findings of this study are that mostly people do have not awareness about COVID 19, transmission and prevention methods.

The majority of the participants showed generally moderate knowledge about COVID 19. Age, education, level of education and occupation were the only significant factors that improved the level awareness. Groups of respondents of age 35-50 years, college graduates, medical professions and income over than 300,000 Syrian Pounds showed high level of knowledge and awareness of COVID 19 whereas low income and low education level respondents showed the opposite.

Empowering public information regarding the epidemiology of the COVID 19 is needed. Medical profession respondents can be helpful in educating other groups and they can communicate with health care providers in order to control COVID 19 outbreak.

Keywords: Knowledge; Awareness; Novel coronavirus; COVID 19

Introduction

In general, there is a lack of studies on the awareness and attitude of the Syrians towards infectious diseases. Novel Coronavirus or COVID 19 is the new strains of viruses which can infect humans [1]. Bats are considered as natural hosts of these viruses yet several other species of animals are also known to be a source such as camels and civet cats [2].

COVID 19 found in China is genetically closely related to the SARS-CoV-1 virus which caused thousands of deaths in 2002. The current COVID-19 pandemic caused so many reported cases around the world [3]. The methods of transmission of COVID 19 viruses are transmitted from person-to-person and similar to seasonal influenza and may cause the same symptoms. There is no vaccine and no specific treatment for this virus so far and because it is a new virus, nobody has prior immunity which in theory means that the entire human population is potentially susceptible to COVID-19 infection [4].

There is not enough epidemiological information at this time to determine how easily and sustainably this virus spreads between people, but it is currently estimated that, on average, one infected person will infect between two and three more [5]. The virus seems to be transmitted mainly via respiratory droplets that people sneeze, cough, or exhale. The virus can also survive for several hours on surfaces such as tables and door handles [6].

The incubation period for COVID-19 is estimated at between 2-14 days. At this stage, we know that the virus can be transmitted when people who are infected show flu like symptoms which ranges in clinical presentation from a mild upper respiratory illness to rapidly progressive pneumonia and multi-organ failure [7]. The symptoms are fever, cough, difficulty breathing, muscle pain and tiredness. More serious cases develop severe pneumonia, acute respiratory distress syndrome, sepsis and septic shock that can lead to death [8].

People who are at greater risk of developing severe symptoms are: elderly people and those with health disorders

such as hypertension, diabetes, cardiovascular disease, chronic respiratory disease and cancer. Disease in children appears to be relatively rare and mild [9]. There is no published evidence yet on the severity of illness among pregnant women after COVID-19 infection [10]. ECDC will continue to monitor the emerging scientific literature on this question, and suggests that all pregnant women follow the same precautions for the prevention of COVID-19, including regular hand washing, avoiding individuals who are sick, and self-isolating in case of any symptoms, while consulting a healthcare provider by telephone for advice [11].

There is no specific treatment for this disease, so healthcare providers treat the clinical symptoms (e.g. fever, difficulty breathing) of patients. Supportive care (e.g. fluid management, oxygen therapy, etc.) can be highly effective for patients with symptoms [12]. Current advice for testing depends on the stage of the outbreak in the country or area where you live. Countries might be at different stages of the epidemic, and the approach to testing may differ according to country policy. This is adapted to the situation at local and national level [13].

The aim of this study is to assess the level of awareness and knowledge of the Syrian people about COVID 19 outbreak and the methods should be followed in order to counter this virus and to set up recommendations which can be beneficial for the people and the health authority in Syria. It is important to assess the knowledge, attitudes and behavior of the public towards important and prevalent infectious diseases. Such information provides baseline data for the prevention and control of these diseases through estimation of the impact of previous prevention efforts made by the government and guiding the need for further interventions.

Materials and Methods

A well designed COVID 19 pandemic questionnaire was distributed among over 600 participants. The final questionnaire was reviewed for face validity by the expert panel of the research center at the faculty of pharmacy and was pilot tested on 20 subjects from the target population, who were not included in the study. Only 520 questionnaires were returned and 120 questionnaire forms were excluded from the study as forms were sent back uncompleted. The questionnaire consisted of two sections. Section one was about demographic and socioeconomic data (age, gender, income, education) whereas section two was about epidemiological data of COVID 19. The 400 respondents for this study consisted of 260 males and 140 females. Their ages were from 20 to 65 and had different education level. Each correct answer of the question in the questionnaire was given one point in order to assess the awareness and the knowledge of Syrians about COVID 19. After collecting the questionnaires, the points were added for each question and the responses were classified as a percentage of correct answers. The results of the awareness questions were analyzed using the answer key. The knowledge score for the whole sample was expressed as the percentage of correct answers of the 20 questions in the questionnaire. Categorical variables are reported as number and percentage, and continuous variables are expressed as mean and standard deviation (SD). Comparison of scores between groups was based on analysis of variance chi-squared test and P value was set at $P < 0.05$.

The epidemiological section of the questionnaire contained 20 questions was as follows:

S. No.	Questions	Yes	No	Don't know
1	COVID 19 is caused by a virus	-	-	-
2	Incubation period of COVID 19 is 5–14 days	-	-	-
3	COVID 19 is transmitted by infected persons	-	-	-
4	COVID 19 is transmitted by droplets in air	-	-	-
5	COVID 19 is transmitted by droplets on surfaces	-	-	-
6	COVID 19 is transmitted by cough and sneeze	-	-	-
7	COVID 19 is transmitted by exhalation	-	-	-
8	COVID 19 has upper respiratory and lower respiratory symptoms	-	-	-
9	COVID 19 has gastrointestinal symptoms	-	-	-
10	COVID 19 has Fever and muscle pain	-	-	-
11	COVID 19 mortality rate is higher in elderly	-	-	-
12	COVID 19 can be prevented by wearing mask	-	-	-
13	COVID 19 can be prevented by washing hands for 20 seconds	-	-	-
14	COVID 19 can be prevented by having good immune system	-	-	-
15	COVID 19 can be prevented by balanced nutrition	-	-	-

16	COVID 19 can be prevented by Vaccine	-	-	-
17	No drug treatment available for COVID 19	-	-	-
18	COVID 19 patient needs ventilator to survive	-	-	-
19	Vitamin C is important in COVID 19 treatment	-	-	-
20	Vitamin D is important in COVID 19 treatment	-	-	-

Results

Table 1 demonstrated that 260 (65%) of the respondents were males while 140 (35%) were females. The age of the respondents participants was from 20 to 65 years old and it was distributed in 3 categories as follows: 20 to 34-yearsold (65 respondents or 16.25%), 35 to 50 years old (210 respondents or 52.5%) and 51 to 65 years old (125 respondents or 31.25%). Monthly income is very important variable in awareness level. It's shown that 170 respondents or 42.5% were earning less than 50,000 SP, a majority of the respondents 198 or 49.5% was earning 50,000 to 100,000 SP. Only 25 respondents or 6.25% were earning 100,000 and 300,000 SP and 7 respondents or 1.75% were earning above 300,000 SP. In this study it is found that 2.75% had primary education, 24.5% had high school level of education and 72.75% were college graduates. It was also show in **Table 1** that 66.25% of the respondents had medical professions such as medical doctors, pharmacists, dentists, nutritionists and nurses. Whereas, 27.25% had science related jobs and 2.75% and 2.5% were economists and lawyers respectively. Only 1.25% had other professions such as teachers and store owners.

Table 1 Socioeconomic and demographic variables among respondents.

Variables	Number of respondents	Percentage
Gender		
Male	260	65
Female	140	35
Age (Years)		
20-34	65	16.25
35-50	210	52.5
51-65	125	31.25
Family Income (in Syrian Pounds)		
Less than 50,000	170	42.5
50,000-200,000	198	49.5
200,000-300,000	25	6.25
Above 300,000	7	1.75
Education		
Primary	11	2.75

High School	98	24.5
College	291	72.75
University Specialty		
Medical (MD, Pharmacy, Nutrition...)	265	66.25
Sciences	109	27.25
Economy	11	2.75
Law	10	2.5
Others	5	1.25
Total	400	100

With regard to the correct answers among the age groups, there was a significant difference among the groups. The highest percentage of the correct answers were in the age group 35-50 years with 88% of people of this group had the correct answers followed by age group 51-65 years where 69% of the group had correct answers. The last group was 20-34 in which 55.4% only gave that correct answers as shown in **Table 2**.

Table 2 Percentage of all answers among age groups.

Age	Yes	No	Don't know	Total
20-34	36 (55.4%)*	25 (38.5%)	4 (6.1%)	65 (100%)
35-50	185 (88%)*	25 (12%)	0	210 (100%)
51-65	86 (69%)*	14 (11%)	25 (20%)	125 (100%)
***Significant difference P< 0.05				

There was no significant difference (P<0.05) between males and females. 91% of the males gave the correct answers comparing with 87% of females. The results are shown in **Table 3**.

Table 3 Percentage of the correct answers of males and females.

Gender	Yes	No	Don't know	Total
Males	237 (91%)	18 (7%)	5 (2%)	260 (100%)

Females	122 (87%)	14 (10%)	4 (3%)	140 (100%)
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Table 4 showed that income is correlated with the correct answers. People with high salaries gave more correct answers comparing with others. In the group of salaries higher than 300,000 SP, 92% of them gave the correct answers followed by the group 200,000-300,000 SP 84% of this group had correct answers. 65% of the respondents who had income between 50,000 to 200,000 gave the right answers and finally the group of lower income had the least correct answers only 41% of the respondents gave the correct answers. The difference among income groups was statistically significant ($P < 0.05$).

Table 4 Percentage of all answers among income groups.

Monthly income (SP)	Yes	No	Don't know	Total
< 50,000	70 (41%)*	63 (37%)	37 (22%)	170 (100%)
50,000-200,000	129 (65%)**	61 (31%)	8 (4%)	198 (100%)
200,000-300,000	21 (84%****)	3 (10%)	1 (6%)	25 (100%)
> 300,000	6 (92%****)	1 (8%)	0	7 (100%)

****Significant difference $P < 0.05$

Education level played an important role in the COVID 19 knowledge and awareness. The number of respondents gave the right answers increased with the level of education. The highest percentage of respondents gave the correct answers was in the group who had college education (87%) followed by those who had high school (54%) and primary education (52%). The difference was significant between college education level and high school and primary education at $P < 0.05$. These results are presented in **Table 5**.

Table 5 Percentage of all answers among education groups.

Education level	Yes	No	Don't know	Total
Primary	6 (52%)*	3 (26%)	2 (22%)	11 (100%)
High school	53 (54%)**	33 (34%)	12 (12%)	98 (100%)
College	253 (87%****)	29 (10%)	9 (3%)	291 (100%)

****Significant difference $P < 0.05$

Table 6 has shown that specialty or profession had an impact on the percentage of the correct answers. 98% of the medical profession group gave the right answers followed by the science group (87%), economy (69%), law (64%) and finally other professions groups such as engineering which gave 61% of the correct answers.

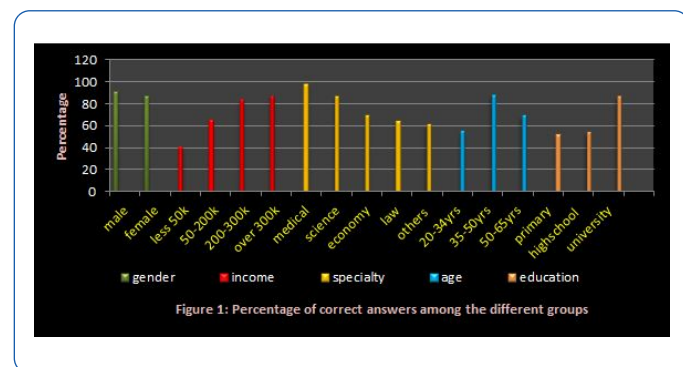
Table 6 Percentage of all answers among specialty groups.

Specialty	Yes	No	Don't know	total
Medical (Medicine, dental, nutrition, Pharmacy, nurses)	260 (98%****)	5 (2%)	0	265 (100%)
Science	95 (87%)*	10 (9%)	4 (4%)	109 (100%)
Economy	8 (69%)*	1 (10%)	2 (21%)	11 (100%)
Law	6 (64%)*	2 (21%)	2 (15%)	10 (100%)
Others (Engineer..)	3 (61%)*	1 (27%)	1 (12%)	5 (100%)

****Significant difference $P < 0.05$

Discussion

This is the largest study to date on the awareness of COVID 19 awareness in Syria. This study shows that the awareness of a sample of Syrians regarding COVID 19 pandemic following a recent outbreak is acceptable. Knowledge of disease symptoms and daily preventive measures was relatively good. Some of the respondents had a very low level of knowledge. The entire results of this study are summarized in **Figure 1** which shows that specialty, level of education and income were important factors in increasing the awareness and knowledge about COVID 19. The age group 35-50 years had also positively impacted the level of awareness which can be explained that at this age many of the respondents are already involved in COVID 19 campaigns about either prevention or treatment of the infected people. Unfortunately, the lowest level of awareness was in low income group as shown in **Figure 1**.



Many studies have examined the various levels of knowledge, attitudes, and practices about infectious disease outbreaks, such as severe acute respiratory syndrome, avian influenza, and the influenza strain H1N1 [14]. But a literature search has not found any public reports on knowledge regarding coronavirus among the population in Saudi Arabia until now. Therefore, this population-based survey could provide baseline data to government for preventive measures in case of future outbreaks [15].

Conclusion

The findings of this study suggest that Syrians of a relatively high level of socioeconomic status have had good knowledge and awareness of COVID-19. In addition, good COVID-19 knowledge is associated with higher education level and medical profession suggesting that health professionals including medical doctors, pharmacists, nutritionists and dentists can play an important role in educating communities. Low income and low education population have the least awareness and knowledge level. The health authorities should concentrate on these groups in order to further prevent COVID 19 pandemic from spreading.

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Conflict of Interests

None declared.

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